

CASTINGS, GRAY IRON
SEWER AND UNDERGROUND CONDUIT

NOTE: THIS SPECIFICATION AND ANY ACCOMPANYING SPECIFICATION OR BID CAN BE APPEALED.

YOUR APPEAL MUST BE SUBMITTED IN WRITING TO THE CITY PURCHASING DIRECTOR FOR ALL BIDS NO LATER THAN FIVE (5) WORKING DAYS PRIOR TO BID OPENING.

YOUR BID SPECIFICATION APPEAL MUST NOT ONLY IDENTIFY THE PROVISION, TERM OR CONDITION THAT IS CAUSING PROBLEMS, BUT ALSO YOUR PROPOSED ALTERNATE POSITION, TERM OR CONDITION AND BE SUPPORTED BY TECHNICAL DATA, TEST RESULTS AND OTHER INFORMATION.

CONTACT THE APPROPRIATE PURCHASING AGENT OR THE PROCUREMENT SPECIALIST FOR THE APPEAL FEE AMOUNT AND FILING INSTRUCTIONS.

APPEALS RECEIVED LATER THAN FIVE (5) WORKING DAYS PRIOR TO BID OPENING OR WITHOUT SUFFICIENT DETAILS **WILL NOT BE CONSIDERED.**

NOTICE
AN APPEAL FEE OF THAT IS 1% OF THE ESTIMATED DOLLAR AMOUNT
OF THIS CONTRACT IS REQUIRED WITH A BID SPECIFICATION APPEAL. THIS
FEE IS A PREREQUISITE FOR PURSUING THE APPEAL AND
MUST ACCOMPANY THE APPEAL.
THE APPEAL FEE WILL BE RETURNED IF THE APPEAL IS UPHELD.

CAUTION: A BID THAT DOES NOT FULLY COMPLY WITH ALL OF THE PROVISIONS, TERMS, AND CONDITIONS OF THIS OR ANY ACCOMPANYING SPECIFICATION AND BID, MAY BE DETERMINED AS A COUNTEROFFER AND MAY RESULT IN THE BID BEING REJECTED FOR NON-RESPONSIVENESS.

- I. GENERAL: It is the intent of this specification to describe the minimum requirements for domestically manufactured gray iron castings to be purchased by the City of Milwaukee for the Department of Public Works Underground Operations (U.O.) and the Communication and Electrical Services Division (C. & E.S.D.). All parts, items or features not specifically mentioned which are necessary or which are regularly furnished in order to provide a complete unit, shall be furnished by the successful bidder at the bid price and shall conform in strength, quality of material and workmanship to that usually provided by the engineering practice indicated in this specification.
- II. AWARD AUTHORITY:
 - A. The Business Operations Division Procurement Services Section (DOA) will be the sole judge of the quality and suitability of the equipment, materials and/or services offered in its determination of the successful bidder for bids that do not exceed \$30,000.
 - B. The City Purchasing Director will be the sole judge of the quality and suitability of the equipment, materials and/or services offered in its determination of the successful bidder for bids that exceed \$30,000.
- III. WARRANTY: The seller and/or the manufacturer warrants that the castings furnished hereunder will be of merchantable quality, will conform to applicable specifications, drawings, designs,

samples or descriptions and will be free from defects in material and workmanship.

This warranty will remain in effect for eight (8) years from date of acceptance or seven (7) years from date of installation which ever occurs first.

Under this provision the seller and/or the manufacturer agrees to repair or replace within a reasonable time, any casting found to be defective during the warranty period at no cost to the City.

- IV. STANDARDS: Reference to ASTM or the American Association of State Highway and Transportation Officials (AASHTO) standard mentioned herein shall mean the latest particular standard in effect at the time the bids are taken.
- V. VENDOR STATEMENT: The vendor **must** provide evidence of his ability to manufacture and furnish similar castings by submitting with the bid the names of governmental units furnished with castings during the previous five year period. This list shall include the name and phone number of a person to contact.
- VI. CASTINGS: The Request to Bid Form indicates but is not limited to each type of casting that may be purchased during the term of the contract.
- VII. SAMPLES OF GRAY IRON: Prior to award of contract the vendor shall demonstrate ability to meet ASTM A48, Class Number 35B gray iron strength requirements by breaking two sample test bars in the presence of a representative of the City of Milwaukee Department of Public Works.
- VIII. SHIPPING AND DELIVERY:
 - A. Castings shall be adequately prepared for shipment and shall be secured in place in such a manner as to prevent damage to the castings during shipment. Dumping of castings will not be permitted. The vendor shall give a notice of delivery a minimum of 24 hours prior to that delivery.
 - B. All castings furnished under this specification shall be delivered by truck to the locations designated by the Division. Castings shall be placed on non-returnable pallets with like items on each pallet. The Carrier shall notify the City of Milwaukee Infrastructure Field Operations, (I.F.O.) formerly known as Sewer and Street Maintenance Division, telephone number (414) 286-3423, as required above to allow for personnel and equipment to be on site for unloading. Deliveries shall be made between 8:00 a.m. and 12:00 p.m., Monday through Friday. Castings shall be unloaded by I.F.O. personnel with "on-truck" assistance provided by the carrier or vendor. The cost of palletizing, cartage and "on-truck" assistance shall be included in the unit price bid for the castings.
 - C. Each delivery of castings shall be accompanied by the company's regular delivery ticket and list showing the quantity, kind, serial number and weight of each separate casting.
- IX. TECHNICAL REQUIREMENTS: This specification covers the following items which shall be manufactured in accordance with the plans as listed in Sections A-1 and A-2. Such plans constitute a part of this specification.

A-1 ITEMS:

INFRASTRUCTURE SERVICES DIVISION
ENVIRONMENTAL ENGINEERING SECTION

	CASTING NUMBER AND PLAN NUMBER	PLAN DATE	WEIGHT IN LBS
Four-Flange Catch Basin/Inlet Frame (Alley)	MS8-A	05-01-01	165
Standard Manhole Frame	MS21	05-01-01	182
Shaft Manhole Lid	MS23-A	05-01-01	225
Shaft Manhole Grate	MS24	05-01-01	324
Shaft Manhole Frame 6" Deep	MS33-B	05-01-01	165
Standard Manhole Adjusting Ring (1")	MS42-1	05-01-01	21
Standard Manhole Adjusting Ring (1.5")	MS42-1.5	05-01-01	55
Standard Manhole Adjusting Ring (2")	MS42-2	05-01-01	110
Standard Manhole Adjusting Ring (2.5")	MS42-2.5	04-29-05	137
Standard Manhole Adjusting Ring (3")	MS42-3	05-01-01	162
Four-Flange Catch Basin/Inlet Frame (C&G)	MS51	05-01-01	237
Catch Basin/Inlet Grate (Alley)	MS55	05-01-01	159
Catch Basin/Inlet Grate (C&G)	MS57	05-01-01	145
Standard Manhole Lid (Vent Hole)	MS58	05-01-01	107
Standard Manhole Lid (No Vent Hole)	MS58A	05-01-01	107
Standard Manhole Grate	MS60	05-01-01	120
Standard Manhole Lift Frame	MS70	06-03-08	192
Standard Manhole Hinged Lid With Gasket	MS71	06-03-08	107
Catch Basin/Inlet Hinged Lift Frame (C&G)	MS72	06-03-08	284
Catch Basin/Inlet Bi-Directional Hinged Grate (C&G)	MS73	06-03-08	165
Catch Basin/Inlet Lift Frame (Alley)	MS74	06-03-08	181
Catch Basin/Inlet Hinged Grate (Alley)	MS75	06-03-08	180

Note: Shaft Manhole Lid and Standard Manhole Lid shall be furnished and installed with a Continuous Oil-Resistant Gasket when concealed pick hole option is selected (see drawings).

Drawings attached to this specification are in a reduced format. Full size prints of Environmental Engineering drawings are available in the Environmental Engineering Section office in Room 807 of the Municipal Building, 841 N. Broadway.

A-2 ITEMS

COMMUNICATION AND
ELECTRICAL SERVICES DIVISION
DIAGRAMS

	PLAN NUMBER	DATE	CASTING	WEIGHT IN POUNDS
Manhole Frame (for 32 1/2" Lid)	MS33-B	05-01-01	MS33-B	165
Manhole Lid (31 5/8")	105A	05-28-08	Type 6 or 7	220
Manhole Lid (32 1/2")	6-A	05-01-01	Type 6-A	225

B. MATERIALS:

1. The quality and manufacture of all castings shall conform to the ASTM Standard

A 48 for Gray Iron Casting, Class Number 35B.

2. The gasket on the manhole lid, (self-sealing), shall be a continuous, "T" section, oil-resistant gasket which has a durometer hardness of 60±5 (Duro 60) and a maximum swell of 90 percent when tested in accordance with ASTM D471 using ASTM No. 3 Oil.
- C. PATTERNS: The vendor shall furnish his own patterns, tools, templates, jigs, gauges, etc., which shall continue to be his property after all castings on this contract shall have been completed and delivered.
- D. MARKING OF CASTINGS:
1. All castings shall bear the following identification marks in the form of legible raised letters and numerals having a digit or letter height of 1" and raised not less than 1/8" on a flat prominent face of the casting:
 - a. The initials or monogram of the foundry.
 - b. The contract number and year made.
 - c. The casting identification number.
 - d. The serial number of the individual casting.
 2. Serial numbers shall be in sequence as molded and the numbers of rejected castings shall not be repeated within the course of the contract.
 3. The City of Milwaukee casting identification numbers shall be removed by the vendor from all castings not accepted by the City.
 4. All letters shall be as shown on the drawings included in this specification.
- E. TEST BAR SCHEDULE - SAMPLING, TESTING, COST OF TESTING:
1. The following schedule to test bars shall apply for each day's pouring:
 - a. For the items Four Flange Catch Basin/Inlet Frame (Alley) (MS8-A), Standard Manhole Frame (MS21), Shaft Manhole Lid (MS23-A), Shaft Manhole Grate (MS24), Shaft Manhole Frame (6" Deep) (MS33-B), Four Flange Catch Basin/Inlet Frame (C&G) (MS51), Standard Manhole Lift Frame (MS70), Catch Basin/Inlet Lift Frame (C&G) (MS72), Catch Basin/Inlet Bi-Directional Hinged Grate (C&G) (MS73), Catch Basin/Inlet Lift Frame (Alley) (MS74) and Catch Basin/Inlet Hinged Grate (Alley) (MS75), at least one pair of standard test specimen B in accordance with Fig. 2 of ASTM A48 shall be cast for each 25 castings or fraction thereof.
 - b. For the items Standard Manhole Adjusting Rings (MS42 series), Catch Basin/Inlet Grate (Alley) (MS55), Catch Basin/Inlet Grate (C&G) (MS57), Standard Manhole Lid (Vent Hole) (MS58), Standard Manhole Lid (No Vent Hole) (MS58A), Standard Manhole Grate (MS60), Standard Manhole Hinged Lid With Gasket (MS71) and Manhole Lids (Type 6, 7 and 6A), at least one pair of standard test specimen B in accordance with Fig. 2 ASTM A48 shall be cast for each 50 castings or fraction thereof.
 2. The bars in a pair of test bars shall be from the same ladle. The pairs shall be cast so as to be representative of the iron in the castings. A standard tension-test

specimen B in accordance with Fig. 2 of ASTM A48 with threaded ends shall be machined at the expense of the vendor from each of the test bars.

3. When a duly appointed representative of the Commissioner of Public Works performs the inspection of the standard tension-test specimens, the vendor shall bear all costs for each standard tension-test specimen tested at the foundry or approved off-site facility. The vendor shall bear the cost of inspection according to Section XI.
- F. TENSION-TEST-SPECIMEN IDENTIFICATION AND SHIPMENT: Each tension-test specimen pair shall be clearly marked with the date of casting and the types and numbers of castings represented. A ticket showing the identification number of the casting, serial number of the castings represented and the date of casting shall accompany each tension-test specimen pair.
- G. PROOF-LOAD TESTING: At the option of the Commissioner a proof-load test may be performed on catch basin grates, standard or shaft lids while set in their respective frames. This test will be performed according to the requirements of AASHTO M306, "Drainage Structure Castings", Section 7.1. The frames and lids or grates shall show no permanent deformation when a proof load of 40,000 lbs. is applied.
- H. MINIMUM WEIGHTS: The minimum weight of an individual casting shall not be less than 95% of the specified weight for that item. No extra payments will be made for castings which weigh more than the specified weight.
- I. TOLERANCES: The dimensions of the castings may vary +/- 1/16 inch per foot with a total maximum tolerance of 1/8 inch except where noted on the drawings.
- J. WORKMANSHIP: All castings shall be machined accurately where specified on the plans. All foundry and machine work shall be of the best of their respective kinds. All castings shall be free from cracks, holes, swells, cold cuts, burrs, sand fins, excessive shrinkage or warpage, and shall be reasonably free from uneven surfaces. No painting, plugging, burning in, or filling will be allowed except where small holes are present in the castings and can be welded without injuring the casting in any manner. Welding will be permitted only upon written order from the Commissioner of Public Works. The lids and grates shall not rock when rotated to any position in the frame.
- X. INSPECTION:
 - A. The vendor agrees to allow the Commissioner of Public Works or his approved representative free access to all processes of the manufacture of these castings.
 - B. At the City's option, the City Inspector or an approved representative of the Commissioner of Public Works shall be allowed to observe pouring operations at the foundry on a random basis, and shall be allowed to select test bar samples.
 - C. All castings will be inspected by the City Inspector or an approved representative of the Commissioner of Public Works during normal daytime, first shift operations (none during second or third shift, evening or night hours). Inspection and weighing will be made at one time upon removal from the molds and after having been cleaned, chipped and/or ground and machined, if specified.

It is the intent of this specification that the vendor have the lot of castings submitted for approval, stock piled at the foundry and that he is to furnish the necessary labor for

handling during inspection. Inspection on a production line will be allowed only if progress and mode of operation are satisfactory.

- D. The City Inspector or an approved representative of the Commissioner of Public Works will designate the casting that conform to the plans attached hereto, and this specification, and reject the castings which do not conform and will give reasons for their rejection. Final acceptance, however, will rest with the Commissioner of Public Works.

XI. COST OF INSPECTION:

A. By City Inspector

1. The vendor shall bear the cost of the inspection by City Inspector and shall include these costs in the contract bids. The City of Milwaukee will be reimbursed for all inspection time at vendor's place of business or offsite place, including hourly rate, travel time, fringe and overhead. Overtime hours, in excess of 8 hours per working day, are paid at a rate of 1.5 times the current hourly rate. The inspection charges will be invoiced by the City of Milwaukee.
2. Should the vendor choose to perform further work on a rejected casting and resubmit it for acceptance, the inspection charge will again be assessed for the re-inspection of the casting. Re-inspection will be charged at the same rate as original inspection.
3. A statement will be furnished to the vendor and the Street and Sewer Maintenance Division and/or the Traffic Engineering and Electrical Services Division by the City Inspector or an approved representative of the Commissioner of Public Works after each inspection, showing a list of both the acceptable and unacceptable castings.
4. In addition to the inspection charge shown in the first paragraph of this item, the vendor will be charged for the cost of the transportation of the inspector from the City of Milwaukee or a local authorized representative to the foundry plus the cost of hotel, meals, taxi and phone calls if any such costs are incurred.

B. By approved representative of the Commissioner of Public Works.

When directed by the Commissioner, the vendor shall retain a private testing laboratory or consulting engineer to perform the inspection. The choice of the private testing laboratory or consulting engineer shall be approved by the Commissioner prior to any inspections being performed. The vendor shall bear the expense of the inspection plus the cost of hotel, meals, transportation and phone calls if any such costs are incurred.

XII. BRAND NAMES:

- A. References: If articles have been identified in the bid by a "Brand Name" and model number, such reference is intended to be descriptive but not restrictive. It is for the sole purpose of indicating to the prospective bidders a description of articles that will be satisfactory. Other items of equal quality will be considered. Samples and/or demonstrations may be requested.
- B. Substitutions: Unless the bidder clearly indicates in his bid that he is offering a different article, his bid shall be considered as an offering of the brand name article.

- XIII. INVENTORY: If requested by the City, the seller and/or the manufacturer shall maintain a pre-determined inventory of castings for release on an as needed basis.
- XIV. RELEASE: During the term of the contract the City shall issue releases for the castings described herein and the seller and/or manufacturer shall deliver those castings within thirty (30) days of receiving a release. Releases made by the City shall be for truckload quantities, where possible.
- XV. PRODUCTION OVERRUNS: Overruns made during a production run of castings for the City shall be placed in inventory at either the sellers or manufacturers facility.

Overruns shall not be more than 10 percent over the released amount for orders of 50 pieces or less, and no more than 5 percent over the released amount for orders exceeding 50 pieces.

Overruns can be used to either replenish the pre-determined inventory quantity requested or to fulfill the requirements of a release made at a future date by the City.

Overruns shall not be shipped or invoiced to the City unless authorized by a release.

- XVI. INVENTORY BUYOUT: At time of contract termination, the City shall be obligated to purchase, at the current contract price, the remaining inventory of castings made specifically for the City.

Should, however, the contract be renewed with the current vendor, the City shall have the right to either purchase the remaining inventory of castings at the current contract price or leave the castings in inventory for future release at the new contract price.